DOCUMENT RESUME

ED 337 132 IR 015 118

TITLE Interactive Television Teaching; Integrating Technology Series.
INSTITUTION Minnesota State Dept. of Education, St. Paul. Instructional Design Section.
PUB DATE 88
NOTE 32p.; For other reports in this series, see IR 015 117-119.
PUB TYPE Guides - Non-Classroom Use (055) -- Reports - Descriptive (141) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Check Lists; *Classroom Techniques; *Educational Television; Elementary Secondary Education; Guidelines; *Individualized Instruction; Interaction; Participation; School Districts; Teacher Student Relationship; Testing
IDENTIFIERS *Interactive Television

ABSTRACT

This guide is designed to help educators become better television teachers through the use of interactive television classroom teaching techniques. The first section discusses ways to deliver effective personalized instruction through the use of interaction techniques designed to enhance the teacher student relationship; presentation techniques designed to make the best use of visuals; and methods to make instruction more personal. Chapter 2 pertains to classroom management techniques including student discipline, tests and quizzes, grading, material exchange, and schedule conflicts. The final chapter discusses effective use of technology in teaching, the use of support materials, and technical troubleshooting. (DB)

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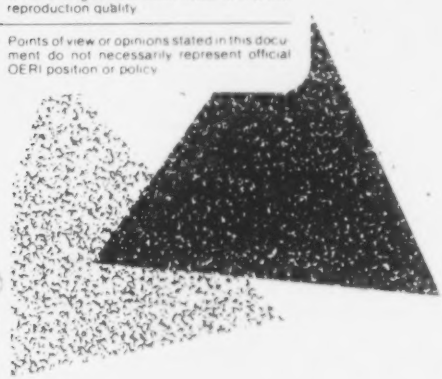

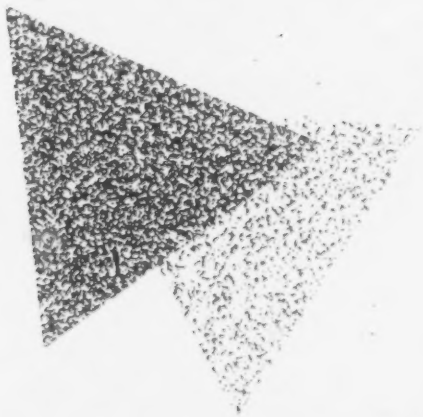

INTERACTIVE TELEVISION TEACHING

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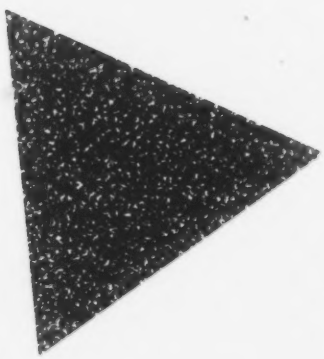

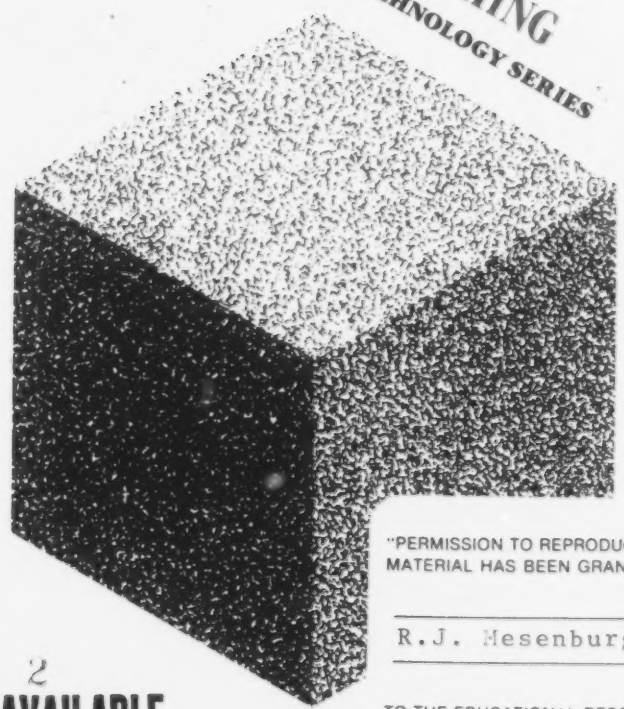

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MINNESOTA DEPARTMENT OF EDUCATION INSTRUCTIONAL DESIGN SECTION

INTERACTIVE TELEVISION TEACHING

INTEGRATING TECHNOLOGY SERIES

Minnesota Department of Education
Instructional Design Section

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ACKNOWLEDGMENTS

This document was developed by the following Minnesota educators who have extensive interactive television knowledge. Their contributions are greatly appreciated.

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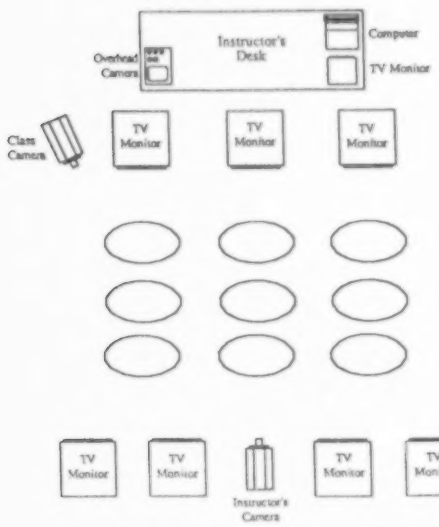
INTRODUCTION

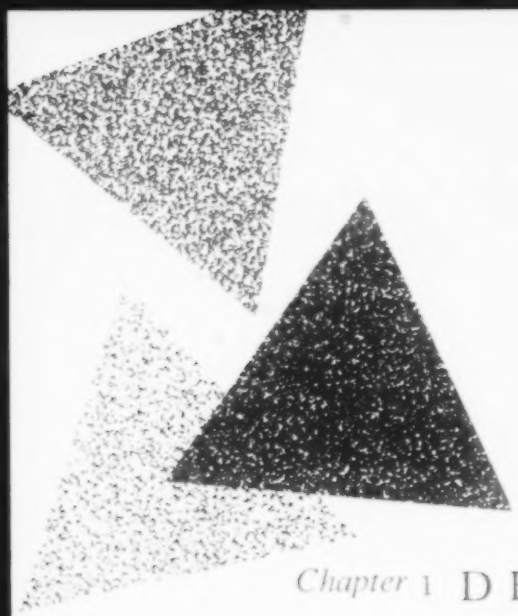
In 1988, the year of the drought, a group of Minnesota teachers met to compile a document that would help their colleagues be better television teachers. The group was lively and energetic and produced a quality document that would help their peers.

The teachers listed as contributors are the authors. They have become "experts" by virtue of their experience. They have all taught two-way interactive television classes. As they recorded their thoughts, there was much to laugh about. The stories from the television set are amusing. The technology often demands a sense of humor.

These teachers have enjoyed their television teaching experience. The technology has been remarkably successful in their opinion. They believe that you can also share in that success. They hope that the information recorded here helps you be successful.

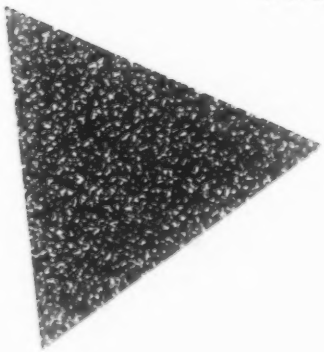
INTERACTIVE TELEVISION CLASSROOM





Chapter 1 DELIVERING EFFECTIVE PERSONALIZED INSTRUCTION

- *Interaction Techniques*
  Presentation Techniques
  Personalizing Instruction/Interaction



DELIVERING EFFECTIVE PERSONALIZED INSTRUCTION

Not very long ago, a teacher talking to a television set would have been considered odd. (It still may be considered odd.) The teachers that authored this document not only talk to televisions, they expect the televisions to talk back (and they do!) Now that the televisions are talking back, the teacher's challenge is to personalize and energize the communication relayed by electronic means. The following suggestions may help you to deliver effective personalized information via television.

Interaction Techniques

A. Have a student answer a question from another student instead of the instructor.

B. Have dialogues between students (foreign language).

C. When reviewing, use "chain questioning," i.e., a student in one site asks a question of a student in another site who answers and then asks a question of a third student, etc.

D. Assign students oral reading from the textbook.

E. Break down assignments into parts, assign to each site and have them share the next day.

F. Have cards with each student's name on them. When asking questions, go through the cards to make sure all students get asked equal numbers of questions. (Make sure you remove absent students names before you begin for the day.)

G. Have students work in groups at each site. When it is time to present, make it a point that each person is in charge of a portion of the presentation. For instance, students can cooperatively produce a videotape, such as a commercial, a skit, a music video or lip sync, an introduction to their school or community and share it with the class.

H. When feasible, small groups should be made up of students from more than one site. This helps avoid competition between school districts.

I. If feasible, students should get together for whole-group activities such as folk dancing, holiday celebrations, etc.

J. Students can interview students from other sites in their classes (e.g., journalism, foreign language).

K. Second-year language students can make up games that can be played by the first-year students over the interactive television system.

Presentation Techniques

A. If the whole class is working on a problem, a copy can be sent in advance and all sites can work the problem on the overhead camera.

B. Systems that use a video sequencer can put a remote site on the teacher monitor when students are giving reports. The teacher site and other sites can be put on the sequencer.

C. Assign students from each site to work as a group when feasible.

D. Students can produce videotapes and show them on the system (e.g., music videos for foreign language).

E. Call on students by name and avoid stating the school site with the student name. This will help to create a feeling of one class.

F. Put questions related to the class on the overhead camera as students are arriving. This is a good warm-up activity.

G. While waiting for class to begin, display a school logo, play a cassette recording or show a picture related to class. This will help to focus the attention of students on a common item.

H. Games can be easily modified to work on interactive television.

1. Jeopardy--Students learn to formulate questions

2. Bingo

   a. Shorthand--To review phrases and brief forms

   b. Foreign Language--To review vocabulary or numbers

3. Matching

   a. Shorthand--To reinforce shorthand and longhand forms

   b. Foreign Language--To review vocabulary pictures and match words

4. Wheel of Fortune--Vocabulary review

5. Hangman--Vocabulary/letter review

Games should be included in an "emergency pack" for days when the equipment breaks down.

I. Overhead (pad) camera techniques:

1. All types of materials can be clearly displayed under the overhead camera.

   •Dissections

   •Computer parts

   •Models (cars, food, furniture) to teach vocabulary

   •Hand puppets (to show and discuss emotions, mannerisms, common expressions)

   •Pictures--Materials from books, postcards, posters, transparencies, maps

2. Student work can be reviewed and discussed on the overhead camera. (This will not be a "private" showing.)

3. Use the overhead camera to write out lecture notes. This will encourage students to write out their own notes.

Personalizing Instruction/Interaction

A. Teachers should visit remote sites. It is recommended that policy allow for at least one remote site visit per quarter. Allow some time to sit and talk with remote site students and staff. Spend some time talking about extracurricular activities and what students are involved in as well as academic achievement.

1. When scheduling remote site visits, consider scheduling them when one site is not in session so more time can be devoted to the site you are visiting.

2. If home site numbers are small, take them with you when visiting remote sites.

3. Visitation to the remote site need not always be announced.

B. Have student introduce themselves in front of the teacher camera. Have them state name, sport interest or other hobby and post-secondary plans. For example, a student walks to the teacher podium, activates the teacher camera and tells a little bit about him or herself, then activates the classroom camera and tells a little bit about someone in the class, then activates the overhead camera and writes something about him or herself. This also gives a student a chance to get familiar with the equipment.

C. Get the students together early in the year by going out for pizza or something similar during or after school. Interaction on the system occurs more quickly when this is done. Teachers need to be aware of liability issues. Schools should furnish transportation.

D. Have students bring in family portraits, pictures, etc., to share with class. Pictures can easily be displayed under the overhead or "pad" camera.

E. Give a quiz every day the first week using the information the students provided when they introduced themselves including asking names of the students according to where they are currently sitting.

F. Be sure to spend a few minutes asking about sporting events, prom, knowledge bowl, etc., as appropriate. Allow students at all sites to ask similar questions of each other. These few minutes can create a real bond. Students need a few minutes of social interaction from time to time.

G. Have students send you copies of school newspapers and share information about students during class.

H. Try to get a copy of the yearbook from the remote sites. This not only helps to put names with faces, but also helps you get a little bit more information about your students.

I. Students can interview students in other sites to share personal information.

J. At the beginning of the year, students can have large name cards in front of them.

K. Insist that students learn the names of other students at the remote sites.

L. Groups can get together for field trips.

M. Students can give directions to their homes in a foreign language and show the route on a map on the overhead.

N. Occasionally go around the room and zoom in on a student's face to give others a full face view.

O. Duplicate seating charts from remote sites and use them to document participation. Make notes about individuals, or record discipline problems.

Chapter 2

CLASSROOM MANAGEMENT

- *Student Discipline*
  Tests and Quizzes
  Grading
  Material Exchange
  Schedule Conflicts

CLASSROOM MANAGEMENT

Most educators have experience with a distant learner in the classroom. Today, via the marvels of technology, teachers can have a distance learner who isn't distant (but could be distant and at a distance). The geographical distance poses some unique challenges for classroom management. Some of these challenges may be overcome by following this advice.

Student Discipline

A. Clearly state your classroom rules at the beginning of the year and stick to them throughout the year. It is best to have this in written form and handed out on the first day possible in contract form.

B. Let the students at all sites cooperatively set up rules of conduct that could be posted in each classroom. This should include what is appropriate language and behavior. This may encourage students to monitor the behavior of their classmates.

C. Make sure you get to know the principals and counselors at the remote sites and use them when problems occur.

D. Before the school year starts, get a student handbook from each remote site. Read these handbooks, but stress that home site rules apply. Touch base with principals on any areas that might be potential problems e.g., make-up work, school-related absences, necessity of taking final exams if GPA is a certain average, dropping the course, etc.

E. Set up a meeting with principals and facilitators from all sites at the beginning of the year. This will facilitate communication throughout the year.

F. Make sure to have a project policy regarding student discipline and a procedure for handling student removal. Review the procedure with students at the beginning of the year.

G. Be consistent in what physical and academic behavior you tolerate. Treat all sites the same.

H. Never hesitate to ask for help with discipline from remote site facilitators and/or principals. If students know there is someone at their school who can carry out a teacher's request, there will be less "test the teacher" hassle.

I. Keep a daily log of student attendance and activities. Someone at each site should take hourly attendance.

J. Videotape class activities on a regular basis to monitor class behavior.

K. Use " the stare" as a management technique.

L. Use humor frequently.

M. Use a seating chart and rotate it often.

N. Have a phone in each classroom for immediate personal contact.

O. Request names, addresses and phone numbers of parents so they can easily be contacted.

Tests and Quizzes

A. Use the overhead camera to display a clear copy of the test. This will make sure that there are no mistakes in the copies that were sent out to the sites and will allow you to watch the remote sites without them seeing you.

B. Give two forms of tests. Make sure they are distributed in alternating form. Very small changes can inhibit cheating. Remind students that you do this to keep them above reproach so that fingers are not pointed at them.

C. Clearly label quizzes and tests and mailing envelopes with date to be given so that the facilitator won't have to come and ask. Send tests in separate envelopes (separate from other teaching materials) and keep them sealed until the test is to be given.

D. Have districts supply a proctor for major tests and quizzes. On smaller quizzes and work, inform the facilitator or principal so that they can occasionally check on student progress.

E. Send the answer key with the test for a facilitator or proctor at the remote site. Tests can then be corrected immediately and students won't have to wait to get test results.

F. Don't be on camera during the entire test. Have the camera on students so that remote sites cannot see when you are looking up or not. Put yourself on camera periodically so students know you are available to answer questions and supervise.

G. If possible, spread students out in the room and make sure all are on camera when taking tests.

H. Have students open up test envelopes within camera range. Inform the office or facilitator to collect tests immediately after class.

I. Check the room before tests/quizzes are administered to be sure crib sheets/answers haven't been posted.

J. Make-up tests--have an alternate plan, e.g., four-page report, do interview and write up information, research culture information, send video of oral test and have student take on their own time. Make it difficult for them to be gone.

K. Send tests an extra day or two in advance (especially at holiday times) so they arrive on time.

L. At the end of a class (trimester, quarter, semester, year), the teacher may want students to hand in a stamped, self-addressed envelope or postcard to receive their final test, final grade, or teacher comments.

M. If class is interrupted on a test day, consider one of the following options:

1. Have a proctor gather tests
2. If there is not a proctor, designate a student to collect papers
3. Invalidate the test

N. If schools come online at different times during the hour, gear your tests to the time you have all the students present.

O. If you are using company tests, be sure other district teachers don't pass them out as extra study materials.

P. Set audio levels so that during tests/quizzes you can hear what's going on at remote sites.

Q. If your system has a video sequencer, ask students to shut off student monitors. This way only the teacher is seen.

R. Use the overhead camera for students needing help.

S. Videotape the class if you suspect cheating. This can be done at any time and students should be made aware of this early in class.

T. Designate someone in each remote site who will be responsible for giving and proctoring make-up tests.

U. Use colored paper for tests. Switch colors randomly throughout the year. This will help you notice any "extra" material or paper on the desktops.

Grading

A. Obtain a list of grading periods and grade due dates from each school. If grading periods are different between sites, get a grade book from the remote sites or mark in your gradebook when grading periods occur at each site. This will help to prepare for mid-term and semester grading times.

B. If there are differences in grading periods, it may be best to use percentage grading.

C. The grading complications of multiple sites may be minimized by using a computerized grading program.

D. Grades can be discussed individually. If phones are not present in the interactive television room, arrangements can be made to send the class to the media center for a project and have them come back individually to discuss their grade.

E. Discuss remote site grading policies with each school's principal (weighting of grades, incompletes, progress reports, etc.).

F. Request sample of mid-term report forms and quarter grading forms from each school.

G. Occasionally show student's frequency distributions.

H. If grades are sent to student at remote sites, consider using separate envelopes for each student.

I. Parent-teacher conferences can be scheduled over the interactive television system to review grades.

Material Exchange

A. Have mailing labels made up ahead of time for each site.

B. When transferring materials, have specific instructions for the facilitator, including what class the materials are for, when it is to be handed out, etc., so that it can be easily handled.

C. Have convenient mail receptacles in each interactive television classroom to help facilitators handle materials.

D. Determine mail time between sites to better help you in planning material transfer. Take into consideration mail delivery times, holidays, workshop days, etc. Always plan ahead.

E. When using facsimile machines find out the busy times at remote sites and avoid those times.

F. Find as many resources as possible (vocational buses, teachers living in another district, etc.) to get materials from site to site. Define expectations of these alternative resources in material transfer. The ultimate responsibility is yours.

G. Review materials may be left in the library media center for use in the library media center with the permission of the media specialists.

H. Consider sending all quizzes or tests for a unit, properly labeled, at one time.

I. Tests and quizzes should be sent directly to the facilitator not to the classroom.

J. Have students send tests back on facsimile machine one site at a time.

Schedule Conflicts

A. Administrators must inform teachers of conflicts as far in advance as possible, and absolutely no less than one day of advance notice is required.

B. If students are absent at a remote site, ask the facilitator to tape the course. Students can watch the tape the next day.

C. Check with students on Monday of every week to find out what is going on in each school and try to work around the conflicts.

D. Request a master calendar showing conflict days in each district. The project director can usually get this information. Exchange individual calendars if a master calendar is not available.

E. Send "extra" assignments to remote sites periodically and inform students to do them in case of severe technical problems. (These may also be used when a substitute cannot be found.)

F. Build in reteaching/review when you know a conflict has (or will) cause students to miss instruction.

G. Call the principal at the remote site when conflicts occur to be sure administration knows/is aware of the problem.

H. Exchange weekly schedules, calendars and bulletins.

I. Have clarification from remote site(s) regarding policies of passing, absences, etc. (Exchanging handbooks may provide this information.)

Chapter 3

TECHNOLOGY AND TEACHING

- *Effective Technology Use*
  Use of Support Materials
  Technical Troubleshooting

TECHNOLOGY AND TEACHING

Teaching and learning via interactive television require some technical knowledge and classroom interaction skills. These skills can be learned.

The instructor and the students need to be aware of the adaptation the technology demands.

Effective Technology Use

A. Record and view yourself so you can see what the students will see. (Are you switching too much? Are visuals clear, etc.?)

B. When presenting on the overhead camera, make sure to occasionally switch to yourself so that students can see you.

C. Find the correct balance for switching. Don't switch from camera to camera too much or too little. Students can be asked for feedback on camera switching.

D. Make sure you switch to the teacher camera when talking to the class.

E. Cue up videotapes before the start of class.

F. When using the teacher camera, make sure your image is large enough so you don't appear distant on screen.

G. Mark an area on the teacher station to show where paper should be placed when using the overhead camera.

H. Use yellow or other colored paper instead of white for overhead camera work (less glare). If materials are on white paper and glare is a problem, yellow transparency film can be placed on top of the white paper.

I. When lecture is finished, try sitting in the classroom with students and talking to remote sites from there. You may want to lecture from there, too, if appropriate.

J. Try to make sure to have things like filmstrips, films, etc., set up before class so time isn't wasted.

K. Be sure all equipment is working properly before class starts. Don't take someone's word for it!

L. Train students to help with camera operation, microphone settings, etc.

M. Design an appropriate background behind the teacher, e.g., chalkboards, curtains, fake bookcase, flags, decorations, etc.

N. It would be nice to have a preview monitor installed. It will give you a chance to see yourself or materials prior to being seen on the air.

O. Zoom in on individual students periodically (especially at the beginning of classes each quarter, trimester, semester) for easy identification by you and other students.

P. Be considerate of others using the room. Share bulletin boards, hanging materials, etc.

Q. When showing movies, the speed of the motion picture projector shutter versus the line scanning rate of the video camera may be different. This may cause the television picture to flicker. Check it out!

R. If possible, run a color bar and do a white balance to check and see if correct colors appear in all sites. Ideally this should be done at the beginning of each day. (check to see if your cameras are the type that need to be white balanced.)

S. Have a lot of paper/pens ready if the audio goes out. Also have spare microphone batteries, etc. Anticipate needs in case of breakdowns.

T. Be innovative when equipment breaks down. Use other equipment available to you!

U. Repeat questions, if necessary, so all sites hear them.

V. Use print that is readily legible.

W. Allow lead time for remote sites if requesting equipment.

X. Use risers for students, if posssible, for greater visibility.

Y. Get students seated in the best spot possible to be seen on camera.

Z. Make sure that students at home sites look at the cameras and speak loudly enough to be heard at the remote sites.

Use of Support Materials

A. Slides, videos, filmstrips, 16 mm films or other materials can be videotaped for use in subsequent classes. Make sure to get permission to use copyrighted materials.

B. Experiment with different colored paper and transparencies to determine what transmits best.

C. When using audio materials (records, tapes, etc.) always do a sound check. Make sure all remote sites can hear clearly.

D. Record short excerpts of timely material from off-air programming or satellite. Follow copyright restrictions.

E. Interview and tape guest speakers and visitors as appropriate for use in subsequent years. Guest speakers should speak from remote sites occasionally.

Technical Troubleshooting

A. New teachers should be trained how to operate the system. This should include some "troubleshooting" techniques. Teachers need to reach a comfort level with the technology.

B. If something does not work, stay calm. Logically work through the problem to determine a solution.

C. Use technical report sheets or a notebook to write down technical problems so that when you call them in you have all the information needed.

D. Try to determine what works and what does not work when technical problems occur. Instruction still can take place with limited audio or video. If there is a technical problem, always identify the extent of the damage. Instruction can often continue despite problems. If the audio works when the video is out, class can continue, etc.

E. Train students (or at least one at each site) to operate the technology and to follow directions over the system in correcting problems. Facilitators, principals or project directors can present this information to students during the first class period.

F. Establish a policy for students to follow when reporting technical problems.

G. It helps to have as many people as possible at each site familiar with the technology (facilitators, principals, janitors, etc.). This way you have other resources to turn to if one person is unavailable.

H. Have someone develop a checklist of things to try if there are technical problems.

I. Make sure you notify remote site personnel immediately when the system is technically down.

J. Alert teachers as early as possible about system breakdowns. Don't wait until class is about to begin.

K. Be sure to have backup supplies available, e.g., batteries for wireless microphone.

L. Communicate with others so rooms aren't locked, equipment lost, damaged, etc. Let them know when room is in use and how to handle a problem if it should arise.

M. Know where your facilitator is throughout the day in case of problems.

N. Administors should review equipment with students. Parents may want to come in and learn about the equipment.

O. Major problems can be avoided if equipment is periodically checked by technicians or facilitators (preventive maintenance).

P. Everyone involved with the project (principals, teachers, students/facilitators) should be notified as early as possible about system breakdowns.

Q. Have a "chain of command" list of contacts when system goes down.

R. Have a phone in the classroom for emergencies so you don't have to leave the room, or send a student to find someone to provide assistance.

S. Keep a personal diary/log of technical problems and how they were solved. This may help you solve a similar problem in the future.